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wherein said air press is a cleaning press used for cleaning the semipermeable membrane, said apparatus further comprising a second air press, the semipermeable membrane having a membrane direction of travel, said second air press being located after said cleaning press in the membrane direction of travel.

REMARKS

Claims 1-24 were pending and considered by the Examiner. Claims 7, 13-16, 20 and 22 have been objected to, but indicated to be allowable if rewritten in independent form. Claims 1-6, 8-12, 17-19, 21, 23 and 24 have been rejected. In response, claims 1, 7, 13, 14, 20 and 22 have been amended. Reconsideration and allowance are respectfully requested.

Claims 7, 13, 14, 15, 16, 20 and 22 have been objected to as being dependent upon a rejected base claim, but have been indicated to be allowable if rewritten in independent form, including all of the limitations of the base claim and any intervening claim.

In response, claim 7 has been amended to include all of the limitations of claim 1, from which claim 7 depended previously. Therefore, it is respectfully submitted that claim 7 has been rewritten in independent form and is now allowable.

Claims 13 and 14 have each been rewritten to include all of the limitations of claims 1 and 12, from which each depended previously. Therefore, it is respectfully submitted that claims 13 and 14 are now in proper independent form and should be allowed.

Claims 15 and 16 each depend from claim 14. Since claim 14 has now been rewritten in independent form, each of claims 15 and 16 should be allowable without further amendment.

Claim 20 has been amended to include all of the limitations of claims 17 and 19, from which claim 20 depended previously. Therefore, it is respectfully submitted that claim 20 is now in proper independent form and should be allowed.

Claim 22 has been amended to include all of the limitations of claim 17, from which claim 22 depended previously. Therefore, it is respectfully submitted that claim 22 is now in proper independent form and should be allowed.

Each of the claims objected to, claims 7, 13-16, 20 and 22 has either been rewritten in independent form or depends now from a claim rewritten in independent form. Therefore, it is respectfully submitted that each of claims 7, 13-16, 20 and 22 is now in allowable form and an indication of such is respectfully requested.

Claims 1-5, 9-12, 17-19 and 23 have been rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent 6,280,573 (Lindsay et al.). It is respectfully submitted that the present invention differs from the teaching of Lindsay et al. and provides advantages over the prior art.

Lindsay et al. teaches a leakage control system for treatment of moving webs. The control system can be used to prevent leakage of chemicals from a web treatment chamber, or to prevent excess infusion of atmospheric air or oxygen into a web treatment chamber (column 2, lines 49-52). Both cross-directional flexible seals with leakage control and machine-direction edge seals with a corresponding control system are included (column 3, lines 4-9). The treatment chambers are described as "stationary or non-stationary plenums having a gas inlet to provide a treatment gas or vapor which can contact the web" (column 4, lines 38-39). Desirably it is non-rotary, thereby unlike a roll (column 4, lines 44-46). The treatment gas may pass partially through the thickness of the web, but need not fully pass through the web (column 4, lines 51-55). The treated web may be either supported on a wire, belt, fabric or the like, or if the web is sufficiently strong in itself, the web may be unsupported (column 4, line 60 through column 5, line 15). Various web treatment processes are disclosed (column 8, line 59 through column 9, line 36). The control system is also taught for sealing steam boxes for heating or drying paper webs and

textiles, for displacing the watering in wet webs. Other gas treatment processes are also disclosed (column 9, lines 37-45). A variety of both cross-direction and machine-direction seals are disclosed. Use of the seals in an air press for non-compressably dewatering wet paper webs is also taught (column 10, line 47 through column 14, line 11).

In contrast to the teaching of Lindsay et al., claim 1, as amended, recites in part:

providing a cleaning fluid;

applying said cleaning fluid on said semipermeable membrane; providing an air press, said air press being configured for carrying said semipermeable membrane therethrough and removing water from said fiber web, said air press having pressurized air therein:

conveying said semipermeable membrane through said air press; and subjecting said semipermeable membrane to said pressurized air within said air press, said pressurized air thereby flushing said cleaning fluid through said semipermeable membrane

In further contrast to the teaching of Lindsay et al., claim 17 recites:

a source of a cleaning fluid;

an applicator configured for applying said cleaning fluid to said semipermeable membrane; and

an air press configured for carrying said semipermeable membrane therethrough, said air press having pressurized air therein, said air press thereby being configured for flushing said cleaning fluid through said semipermeable membrane

In still further contrast to the teaching of Lindsay et al., claim 23 recites:

a source of a cleaning fluid;

an applicator configured for applying said cleaning fluid to said semipermeable membrane; and

a press configured for pressing said semipermeable membrane and for thereby flushing said cleaning fluid therethrough

Lindsay et al. teaches a leakage control system for treatment of a moving web. Nothing in the disclosure of Lindsay et al. teaches or suggests the use of an air press for cleaning a semipermeable membrane configured for carrying a fiber web. Nothing in the teaching of Lindsay et al. suggests use of a press for cleaning a membrane. More specifically, nothing in the teaching of Lindsay et al. suggests providing a cleaning fluid and applying a cleaning fluid to a VOI0207.US

semipermeable membrane as recited in independent claims 1, 17 and 23. Nothing in the teaching of Lindsay et al. suggests flushing a cleaning fluid through a semipermeable membrane by passing the membrane through an air press as recited in claim 1 and in claim 17. Nothing in the teaching of Lindsay et al. suggests providing an apparatus with a source of a cleaning fluid, an applicator configured for applying cleaning fluid to a semipermeable membrane and a press configured for pressing the semipermeable membrane to thereby flush cleaning fluid therethrough as recited in claim 23. Whether or not the apparatus of Lindsay et al. <u>could</u> be used for cleaning a fabric is not relevant when there is no suggestion in the prior art for such use.

The present invention provides advantages over the prior art in providing both methods and apparatus for effectively cleaning low permeability (i.e., semipermeable) fabrics. The invention provides an affective method and apparatus for cleaning semipermeable membranes in papermaking machines. The method and apparatus are vigorous to remove a high percentage of debris from openings from which removal of debris tends to be difficult. The method and apparatus are affective for cleaning semipermeable membranes without disturbing paper quality when cleaning semipermeable membranes of a papermaking machine. Further, the invention can be combined with an air press and used for dewatering and/or can be used for impregnating and coating the paper web. For the reasons stated above, it is respectfully submitted that independent claim 1, together with its dependent claims 2-5 and 9-12; independent claim 17 with its dependent claims 18 and 19 and independent claim 23 are each allowable over the teaching of Lindsay et al. Reconsideration and allowance of claims 1-5, 9-12, 17-19 and 23 are respectively requested.

Claims 1-6, 9, 12, 17-19 and 23 have been rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent 6,136,148 (Koskinen et al.). It is respectfully submitted that the present invention differs from the teaching of Koskinen et al. and includes advantages over the prior art.

Koskinen et al. teaches methods for cleaning fabrics of papermachines. A device 4 arranged in the dryer section of the paper machine spreads cleaning liquid on a fabric 1. A hood 6 is provided for collecting the cleaning liquid and includes both a liquid outlet 7 and a gas outlet 8. In Fig. 4, a blow box 11a is provided on the in running nip side, and a blow box 11b is provide in opposition thereto. Over-pressurization occurs in the region between the fabric and the blow box...

In contrast to the teaching of Koskinen et al., claim 1, as amended, recites in part:

providing an air press, said air press being configured for carrying said semipermeable membrane therethrough and removing water from said fiber web, said air press having pressurized air therein;

conveying said semipermeable membrane through said air press; and subjecting said semipermeable membrane to said pressurized air within said air press, said pressurized air thereby flushing said cleaning fluid through said semipermeable membrane

In further contrast to the teaching of Koskinen et al., claim 17 recites:

an air press configured for carrying said semipermeable membrane therethrough, said air press having pressurized air therein, said air press thereby being configured for flushing said cleaning fluid through said semipermeable membrane

In still further contrast to the teaching of Koskinen et al., claim 23 recites:

a source of a cleaning fluid;

an applicator configured for applying said cleaning fluid to said semipermeable membrane; and

a press configured for pressing said semipermeable membrane and for thereby flushing said cleaning fluid therethrough

Nothing in the disclosure of Koskinen et al. teaches or suggests the use of an air press for cleaning a semipermeable membrane configured for carrying a fiber web. Nothing in the teaching of Koskinen et al. suggests use of a press for cleaning a membrane. Nothing in the teaching of Koskinen et al. suggests providing an air press and flushing a cleaning fluid through a semipermeable membrane by passing the membrane through an air press as recited in claim 1 and

in claim 17. Nothing in the teaching of Koskinen et al. suggests providing a press configured for pressing the semipermeable membrane to thereby flush cleaning fluid therethrough as recited in claim 23.

The present invention provides advantages over the prior art in providing both methods and apparatus for effectively cleaning low permeability (i.e., semipermeable) fabrics. The invention provides an affective method and apparatus for cleaning semipermeable membranes in papermaking machines. The method and apparatus are vigorous to remove a high percentage of debris from openings from which removal of debris tends to be difficult. The method and apparatus are affective for cleaning semipermeable membranes without disturbing paper quality when cleaning semipermeable membranes of a papermaking machine. Further, the invention can be combined with an air press and used for dewatering and/or can be used for impregnating and coating the paper web. For the reasons stated above, it is respectfully submitted that independent claim 1, together with its dependent claims 2-6 and 9-12; independent claim 17 with its dependent claims 18 and 19 and independent claim 23 are each allowable over the teaching of Koskinen et al. Reconsideration and allowance of claims 1-6, 9, 12, 17-19 and 23 are respectively requested.

Claims 1, 4, 8, 9, 12, 17, 21 and 23 have been rejected under 35 U.S.C. § 102(d) as being anticipated by U.S. Patent 4,437,200 (Sando et al.). It is respectfully submitted that the present invention differs from the teaching of Sando et al. and provides advantages over the prior art.

Sando et al. teaches a dehydration apparatus including four rubber rolls 2, arranged in pairs. The pairs are spaced apart, and a tubular or cylindrical seal plate 3 is provided in the center space surrounded by the four rolls (Fig. 3). The cylindrical seal 3 is in pressure contact with each of the rolls. Oppositely directed slits 4 are provided in seal 3, and the interior chamber (a) is pressurized. A cloth for dehydration can be passed through the nips formed between the two rolls

and the seal roll 3, passing through slits 4 thereof such that the web is subjected to a pressurecontrolled environment (a).

In contrast to the teaching of Sando et al., claim 1, as amended, recites in part:

providing a cleaning fluid;

applying said cleaning fluid on said semipermeable membrane;

providing an air press, said air press being configured for carrying said semipermeable membrane therethrough and removing water from said fiber web, said air press having pressurized air therein;

conveying said semipermeable membrane through said air press; and subjecting said semipermeable membrane to said pressurized air within said air press, said pressurized air thereby flushing said cleaning fluid through said semipermeable membrane

In further contrast to the teaching of Sando et al., claim 17 recites:

a source of a cleaning fluid;

an applicator configured for applying said cleaning fluid to said semipermeable membrane; and

an air press configured for carrying said semipermeable membrane therethrough, said air press having pressurized air therein, said air press thereby being configured for flushing said cleaning fluid through said semipermeable membrane

In still further contrast to the teaching of Sando et al., claim 23 recites:

a source of a cleaning fluid;

an applicator configured for applying said cleaning fluid to said semipermeable membrane; and

a press configured for pressing said semipermeable membrane and for thereby flushing said cleaning fluid therethrough

Sando et al. teaches a dehydration apparatus, not an apparatus or method for <u>cleaning</u> a membrane. Thus, nothing in Sando et al. teaches the application of a cleaning fluid and a cleaning function performed therewith. Air does not flow through the clothing of Sando et al., as there is no vent provided, only a drain outlet is provide. Consequently, no flushing occurs through the material, only pressing. Nothing in the disclosure of Sando et al. teaches or suggests the use of an air press for cleaning a semipermeable membrane configured for carrying a fiber web. Nothing in the teaching of Sando et al. suggests use of a press for cleaning a membrane. Vol0207.US

More specifically, nothing in the teaching of Sando et al. suggests providing a cleaning fluid and applying a cleaning fluid to a semipermeable membrane as recited in claims 1, 17 and 23.

Nothing in the teaching of Sando et al. suggests flushing a cleaning fluid through a semipermeable membrane by passing the membrane through an air press as recited in claim 1 and in claim 17. Nothing in the teaching of Sando et al. suggests providing an apparatus with a source of a cleaning fluid, an applicator configured for applying cleaning fluid to a semipermeable membrane and a press configured for pressing the semipermeable membrane to thereby flush cleaning fluid therethrough as recited in claim 23.

The present invention provides advantages over the prior art in providing both methods and apparatus for effectively cleaning low permeability (i.e., semipermeable) fabrics. The invention provides an affective method and apparatus for cleaning semipermeable membranes in papermaking machines. The method and apparatus are vigorous to remove a high percentage of debris from openings from which removal of debris tends to be difficult. The method and apparatus are affective for cleaning semipermeable membranes without disturbing paper quality when cleaning semipermeable membranes of a papermaking machine. Further, the invention can be combined with an air press and used for dewatering and/or can be used for impregnating and coating the paper web. For the reasons stated above, it is respectfully submitted that independent claim 1, together with its dependent claims 4, 8, 9 and 12; independent claim 17 with its dependent claim 21 and independent claim 23 are each allowable over the teaching of Sando et al. Reconsideration and allowance of claims 1, 4, 8, 9, 12, 17, 21 and 23 are respectively requested.

Claims 1, 4-6, 9, 12, 17, 19, 23 and 24 have been rejected under 35 § 102(b) as being anticipated by U.S. Patent 4,116,762 (Gardiner). It is respectfully submitted that the present invention differs from the teaching of Gardiner and provides advantages over the prior art.

Gardiner discloses a felt conditioning system below a press couple including rolls 12 and 14. A felt 16 to travels around an idler roll 20 and a shower 42, where spray is applied to the felt. Particles are thereby loosened from the felt, and as the felt passes around a foraminous roll 24 centrifugal force spews water from the felt into a pan 44. Air pressure can be supplied to the inside of foraminous roll 24, and expelled through openings in the roll to the felt. Gardiner et al. does not teach an air press, but a centrifugal conditioning arrangement.

In contrast to the teaching of Gardiner, claim 1, as amended, recites in part:

providing an air press, said air press being configured for carrying said semipermeable membrane therethrough and removing water from said fiber web, said air press having pressurized air therein;

conveying said semipermeable membrane through said air press; and subjecting said semipermeable membrane to said pressurized air within said air press, said pressurized air thereby flushing said cleaning fluid through said semipermeable membrane

In further contrast to the teaching of Gardiner, claim 17 recites:

an air press configured for carrying said semipermeable membrane therethrough, said air press having pressurized air therein, said air press thereby being configured for flushing said cleaning fluid through said semipermeable membrane

In still further contrast to the teaching of Gardiner, claim 23 recites:

a press configured for pressing said semipermeable membrane and for thereby flushing said cleaning fluid therethrough

In yet further contrast to the teaching of Gardiner, claim 24 recites in part

an air press configured for carrying said semipermeable membrane therethrough, said air press having pressurized air therein, said air press thereby being configured for flushing said cleaning fluid through said semipermeable membrane

Gardiner teaches an apparatus in which conditioning of the belt occurs from centrifugal force. Nothing in the disclosure of Gardiner teaches or suggests the use of an air press for cleaning a semipermeable membrane configured for carrying a fiber web. Nothing in the teaching of Gardiner suggests use of a press for cleaning a membrane. Nothing in the teaching of Gardiner VOI0207.US

suggests providing an air press and flushing a cleaning fluid through a semipermeable membrane by passing the membrane through the air press as recited in claims 1, 17 and 24. Nothing in the teaching of Gardiner suggests a press configured for pressing the semipermeable membrane to thereby flush cleaning fluid therethrough as recited in claim 23.

The present invention provides advantages over the prior art in providing both methods and apparatus for effectively cleaning low permeability (i.e., semipermeable) fabrics. The invention provides an affective method and apparatus for cleaning semipermeable membranes in papermaking machines. The method and apparatus are vigorous to remove a high percentage of debris from openings from which removal of debris tends to be difficult. The method and apparatus are affective for cleaning semipermeable membranes without disturbing paper quality when cleaning semipermeable membranes of a papermaking machine. Further, the invention can be combined with an air press and used for dewatering and/or can be used for impregnating and coating the paper web. For the reasons stated above, it is respectfully submitted that independent claim 1, together with its dependent claims 4-6, 9 and 12; independent claim 17 with its dependent claim 19 and independent claims 23 and 24 are each allowable over the teaching of Gardiner Reconsideration and allowance of claims 1, 4-6, 9, 12, 17, 19, 23 and 24 are respectively requested.

Claims 17, 18 and 23 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 3,956,790 (Ishiwata et al.). It is respectfully submitted that the present invention differs from the teaching of Ishiwata et al. and provides advantages thereover.

In Ishiwata, et al. a method and apparatus are disclosed for removing dust from a surface of a moving web. A web 1 passes a washing station. A washing liquid from a reservoir 4 is pumped to fountain-type washer 2. The web is washed at the washing station and passed to a VOI0207.US

liquid removing station B. High-pressure air is blown against the web to assist in removing water.

In contrast to the teaching of Ishiwata et al., claim 17 as amended recites in part:

a source of a cleaning fluid;

an applicator configured for applying said cleaning fluid to said semipermeable membrane; and

an air press configured for carrying said semipermeable membrane therethrough, said air press having pressurized air therein, said air press thereby being configured for flushing said cleaning fluid through said semipermeable membrane

In further contrast to the teaching of Ishiwata et al., claim 23 recites in part:

a source of a cleaning fluid;

an applicator configured for applying said cleaning fluid to said semipermeable membrane; and

a press configured for pressing said semipermeable membrane and for thereby flushing said cleaning fluid therethrough

Nothing in the disclosure of Ishiwata et al. teaches or suggests the use of an air press for cleaning a semipermeable membrane configured for carrying a fiber web. Nothing in the teaching of Ishiwata et al. suggests use of a press for cleaning a membrane. More specifically, nothing in the teaching of Ishiwata et al. suggests providing a cleaning fluid and applying a cleaning fluid to a semipermeable membrane as recited in claims 17 and 23. Nothing in the teaching of Ishiwata et al. suggests flushing a cleaning fluid through a semipermeable membrane by passing the membrane through an air press as recited in claim 17. Nothing in the teaching of Ishiwata et al. suggests providing an apparatus with a source of a cleaning fluid, an applicator configured for applying cleaning fluid to a semipermeable membrane and a press configured for pressing the semipermeable membrane to thereby flush cleaning fluid therethrough as recited in claim 23.

The present invention provides advantages over the prior art in providing both methods and apparatus for effectively cleaning low permeability (i.e., semipermeable) fabrics. The invention provides an affective method and apparatus for cleaning semipermeable membranes in VOI0207.US

papermaking machines. The method and apparatus are vigorous to remove a high percentage of debris from openings from which removal of debris tends to be difficult. The method and apparatus are affective for cleaning semipermeable membranes without disturbing paper quality when cleaning semipermeable membranes of a papermaking machine. Further, the invention can be combined with an air press and used for dewatering and/or can be used for impregnating and coating the paper web. For the reasons stated above, it is respectfully submitted that independent claim 17 with its dependent claim 18 and independent claim 23 are each allowable over the teaching of Ishiwata et al. Reconsideration and allowance of claims 17, 18 and 23 are respectively requested.

For the foregoing reasons, Applicant submits that no combination of the cited references teaches, discloses or suggests the subject matter of the amended claims. The pending claims are therefore in condition for allowance, and Applicant respectfully requests withdrawal of all rejections and allowance of the claims.

In the event Applicant has overlooked the need for an extension of time, an additional extension of time, payment of fee, or additional payment of fee, Applicant hereby conditionally petitions therefor and authorizes that any charges be made to Deposit Account No. 20-0095, TAYLOR & AUST, P.C.

Should any question concerning any of the foregoing arise, the Examiner is invited to telephone the undersigned at (260) 897-3400.

Respectfully submitted,

Raymond W. Campbell Registration No. 29, 902

Attorney for Applicant

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, Washington, DC 20231, on: <u>December 11</u>, 2002.

Raymond W. Campbell, Reg. No. 29,902

Name of Registered Representative

Signature

December 11, 2002

Date

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P.O. Box 560 Avilla, IN 46710 Title: CLEANING A SEMIPERMEABLE MEMBRANE IN A PAPERMAKING MACHINE

Application Serial No.: 09/965,435 Group: 1731 Examiner: E. Hug

ATTACHMENT A: MARKED-UP COPY SHOWING AMENDMENTS

IN THE CLAIMS

Please amend claims 1, 7, 13, 14, 20 and 22 as follows:

1. (Amended) A method of cleaning a semipermeable membrane, said semipermeable membrane being configured for carrying a fiber web, said method comprising the steps of:

providing a cleaning fluid;

applying said cleaning fluid on said semipermeable membrane;

providing an air press, said air press being configured for carrying said semipermeable membrane therethrough and removing water from said fiber web, said air press having pressurized air therein;

conveying said semipermeable membrane through said air press; and subjecting said semipermeable membrane to said pressurized air within said air press, said pressurized air thereby flushing said cleaning fluid through said semipermeable membrane.

7. (Amended) [The] A method of [claim 1,] cleaning a semipermeable membrane, said semipermeable membrane being configured for carrying a fiber web, said method comprising the steps of:

providing a cleaning fluid;

applying said cleaning fluid on said semipermeable membrane;

providing an air press, said air press being configured for carrying said semipermeable membrane therethrough, said air press having pressurized air therein;

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conveying said semipermeable membrane through said air press; and

subjecting said semipermeable membrane to said pressurized air within said air press, said pressurized air thereby flushing said cleaning fluid through said semipermeable membrane;

wherein said air press includes a plurality of rolls, one of said rolls being a cap roll, said applying step including the substeps of:

applying said cleaning fluid on said cap roll; and

transferring said cleaning fluid from said cap roll onto said semipermeable membrane.

13. (Amended) [The] A method of [claim 12,] cleaning a semipermeable membrane, said semipermeable membrane being configured for carrying a fiber web, said method comprising the steps of:

providing a cleaning fluid;

applying said cleaning fluid on said semipermeable membrane;

providing an air press, said air press being configured for carrying said semipermeable membrane therethrough, said air press having pressurized air therein;

conveying said semipermeable membrane through said air press; and

subjecting said semipermeable membrane to said pressurized air within said air press, said pressurized air thereby flushing said cleaning fluid through said semipermeable membrane;

wherein said air press is a cleaning press used for cleaning said semipermeable membrane; and

said cleaning press is further configured for at least one of impregnating and coating the fiber web carried by said semipermeable membrane.

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14. (Amended) [The] A method of [claim 12,] <u>cleaning a semipermeable membrane, said</u> semipermeable membrane being configured for carrying a fiber web, said method comprising the steps of:

providing a cleaning fluid;

applying said cleaning fluid on said semipermeable membrane;

providing an air press, said air press being configured for carrying said semipermeable membrane therethrough, said air press having pressurized air therein;

conveying said semipermeable membrane through said air press; and

subjecting said semipermeable membrane to said pressurized air within said air press, said

pressurized air thereby flushing said cleaning fluid through said semipermeable membrane;

said air press is a cleaning press used for cleaning said semipermeable membrane; and further comprising the steps of:

providing a second air press, said semipermeable membrane having a membrane direction of travel, said second air press being located after said cleaning press in said membrane direction of travel;

carrying said semipermeable membrane through said second air press; and dewatering said semipermeable membrane within said second air press.

20. (Amended) [The] An apparatus [of claim 19,] for cleaning a semipermeable membrane, said semipermeable membrane being configured for carrying a fiber web, said apparatus comprising:

a source of a cleaning fluid;

an applicator configured for applying said cleaning fluid to said semipermeable VOI0207.US

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membrane; and

an air press configured for carrying said semipermeable membrane therethrough, said air press having pressurized air therein, said air press thereby being configured for flushing said cleaning fluid through said semipermeable membrane;

wherein <u>said applicator</u> is one of a blade coater, a spray device, and a transfer coater and said air press includes a plurality of rolls, one of said rolls being a cap roll, said applicator being said transfer coater, said cap roll functioning as a transfer roll of said transfer coater.

22. (Amended) [The] <u>An</u> apparatus [of claim 17,] <u>for cleaning a semipermeable</u> membrane, said semipermeable membrane being configured for carrying a fiber web, said <u>apparatus comprising</u>:

a source of a cleaning fluid;

an applicator configured for applying said cleaning fluid to said semipermeable membrane; and

an air press configured for carrying said semipermeable membrane therethrough, said air press having pressurized air therein, said air press thereby being configured for flushing said cleaning fluid through said semipermeable membrane;

wherein said air press is a cleaning press used for cleaning the semipermeable membrane, said apparatus further comprising a second air press, the semipermeable membrane having a membrane direction of travel, said second air press being located after said cleaning press in the membrane direction of travel.